

CURRICULUM VITAE

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EDUCATION:

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| University of Illinois Champaign-Urbana, Illinois | B.Sc. | 1976 | Biochemistry |
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|-------------|--|
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RESEARCH PUBLICATIONS:

1. Rafi-Janajreh, A., Tongren, J.E., **Kensil, C.R.**, Hackett, C., Candal, F., Lal, A., Udhayakumar, V. 2002. Influence of adjuvants in inducing immune responses to different epitopes included in a multiepitope, multivalent, multistage *Plasmodium falciparum* candidate vaccine (FALVAC-1) in outbred mice. *Exp. Parasitology.* 101: 3-12.
2. Liu, G., Anderson, C., Scaltreto, H., Barbon, J., and **Kensil, C.R.** 2002. QS-21 structure/function studies: Effect of acylation on adjuvant activity. *Vaccine.* 20: 2808-2815.
3. Waite, D.C., Jacobson, E.W., Ennis, F.A., Edelman, R., White, B., Kammer, R., Anderson, C., and **Kensil, C.R.** 2001. Three double-blind randomized trials evaluating the safety and tolerance of different formulations of the saponin adjuvant QS-21. *Vaccine.* 19 (28-29): 3957-3967.
4. Gozar, M.M., Muratova, O., Keister, D.B., **Kensil, C.R.**, Price, V.L., and Kaslow, D. 2001. *Plasmodium falciparum*: Immunogenicity of Alum-adsorbed clinical-grade TBV25-28, a yeast-secreted malaria transmission-blocking vaccine candidate. *Exp. Parasitology* 97(2): 61-69.
5. Boyaka, P.N., Marinaro, M., Jackson, R.J., van Ginkel, F.W., **Kensil, C.R.**, and McGhee, J.R. 2001. Oral QS-21 requires early IL-4 help for induction of mucosal and systemic immunity. *J. Immunology,* 166: 2283-2290.
6. **Kensil, C.R.** 2000. QS-21 Adjuvant. In: Methods in Molecular Medicine, Vol 42: Vaccine Adjuvants: Preparation Methods and Research Protocols (O'Hagan, D.T. ed.), Humana Press, Inc., Totowa, NJ, pp 259-271.
7. **Kensil, C.R.** and Kammer, R. 1998. QS-21: a water-soluble triterpene glycoside adjuvant. *Exp. Opin. Invest. Drugs* 7(9): 1475-1482.
8. Chao, A.C., Nguyen, J.V., Broughall, M., Recchia, J., **Kensil, C.R.**, Daddona, P.E., and Fix, J.A. 1998. Enhancement of intestinal model compound transport by DS-1, a modified *Quillaja* saponin. *J. Pharm. Sci.* 87(11): 1395-1399.
9. Sasaki, S., Sumino, K., Hamajima, K., Fukushima, J., Ishii, N., Kawamoto, S., Mohri, H., **Kensil, C.R.**, and Okuda, K. 1998. Induction of systemic and mucosal immune responses to human immunodeficiency virus type 1 by a DNA vaccine formulated with QS-21 saponin adjuvant via intramuscular and intranasal routes. *J. Virology* 72 (6): 4931-4939.
10. **Kensil, C.R.**, Wu, J.-Y., Anderson, C.A., Wheeler, D.A., and Amsden, J. 1998. QS-21 and QS-7: Purified saponin adjuvants. In: Modulation of the Immune Response to Vaccine Antigens (Brown, F., Haaheim, L.R.,eds.) Karger, Basel. *Devel. Biol. Stand.* 92: 41-47.

11. Newman, M.J., Wu, J.-Y., Gardner, B.H., Anderson, C.A., **Kensil, C.R.**, Recchia, J., Coughlin R.T., and Powell, M.F. 1997. Induction of cross-reactive cytotoxic T-lymphocyte responses specific for HIV-1 gp120 using saponin adjuvant (QS-21) supplemented subunit vaccine formulations. *Vaccine* 15(9): 1001-1007.
12. Cleland, J.L., Barron, L., Daugherty, A., Eastman, D., **Kensil, C.**, Lim, A., Weissburg, R.P., Wrin, T., Vennari, J., and Powell, M.F. 1996. Development of a single-shot subunit vaccine for HIV-1. 3. Effect of adjuvant and immunization schedule on the duration of the humoral immune response to recombinant Mngp120. *J. Pharm. Sci.* 85(12): 1350-1357.
13. **Kensil, C.R.** 1996. Saponins as vaccine adjuvants, *Critical Reviews in Therapeutic Drug Carrier Systems*, 13 (2): 1-56.
14. **Kensil, C.R.**, Soltysek, S., Wheeler, D.A., and Wu, J.-Y. 1996. Structure/Function studies on QS-21, a unique immunological adjuvant from *Quillaja saponaria*, in: *Saponins Used in Traditional and Modern Medicine*, (K. Kamasaki and G.R. Waller, Eds.), Plenum Press, New York, pp. 165-172.
15. Cleland, J.L., Barrón, L., Daugherty, A., Eastman, D., **Kensil, C.**, Lim, A., Weissburg, R.P., Wrin, T., Vennari, J., and Powell, M.F. 1996. Development of a single-shot vaccine for HIV-1. 3. Effect of adjuvant and immunization schedule on the duration of the humoral immune response to recombinant MN gp120, *J. Pharmaceutical Sciences* 85: 1350-1357.
16. Pillion, D.J., Amsden, J.A., **Kensil, C.R.**, and Recchia, J. 1996. Structure-function relationship among Quillaja saponins serving as excipients for nasal and ocular delivery of insulin, *J. Pharmaceutical Sciences* 85: 518-524.
17. Cleland, J.L., **Kensil, C.R.**, Lim, A., Jacobsen, N.E., Basa, L., Spellman, M., Wheeler, D.A., Wu, J.-Y., and Powell, M.F. 1996. The isomerization and formulation stability of the vaccine adjuvant QS-21, *J. Pharmaceutical Sciences* 85: 22-28.
18. Pillion, D.J., Recchia, J., Wang, P., Marciani, D.J., and **Kensil, C.R.** 1995. DS-1, a modified Quillaja saponin, enhances ocular and nasal absorption of insulin, *J. Pharmaceutical Sciences*, 84: 1276-1279.
19. Recchia, J., Lurantos, M.H.A., Amsden, J.A., Storey, J., and **Kensil, C.R.** 1995. A semisynthetic *Quillaja* saponin as a drug delivery agent for aminoglycoside antibiotics, *J. Pharmaceutical Research*, 12: 1917.
20. Jacobsen, N.E., Fairbrother, W.J., **Kensil, C.R.**, Lim, A., Wheeler, D.A., and Powell, M.F. 1995. Structure of the saponin adjuvant QS-21 and its base-catalyzed isomerization product by ¹H- and natural abundance ¹³C-NMR spectroscopy, *Carbohydrate Research*, 280(1): 1-14.
21. Soltysek, S., Wu, J.-Y., Recchia, J., Wheeler, D.A., Newman, M.J., Coughlin, R.T., and **Kensil, C.R.** 1995. Structure/function studies of QS-21 adjuvant: assessment of triterpene aldehyde and glucuronic acid roles in adjuvant function, *Vaccine*, 13: 1403-1410.

22. Powell, M.F., Eastman, D.J., Lim, A., Lucas, C., Peterson, M., Vennari, J., Weissburg, R.P., Wrin, T., **Kensil, C.R.**, Newman, M.J., Nunberg, J., Cleland, J.L., Gregory, T.J., and Berman, P.W. 1995. Effects of adjuvants on immunogenicity of MN recombinant glycoprotein 120 in guinea pigs. *AIDS Research and Human Retroviruses* 11(2): 203-209.

23. Britt, W., Fay, J., Seals, J., and **Kensil, C.** 1995. Formulation of an immunogenic human cytomegalovirus vaccine: responses in mice. *J. Infectious Diseases* 171: 18-25.

24. Newman, M.J., Munroe, K.J., Anderson, C.A., Murphy, C.J., Panicali, D.L., Seals, J.R., Wu, J.-Y., Wyand, M.S., and **Kensil, C.R.** 1994. Induction of antigen-specific killer T lymphocyte responses using subunit SIVmac251 gag and env vaccines containing QS-21 saponin adjuvant. *AIDS Res. Hum. Retro.* 10(7): 853-861.

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27. Wu, J.-Y., Gardner, B.H., Kushner, N.N., Pozzi, L.M., **Kensil, C.R.**, Cloutier, P.A., Coughlin, R.T., and Newman, M.J. 1994. Accessory cell requirements for saponin adjuvant-induced class 1 MHC antigen-restricted cytotoxic T-lymphocytes. *Cellular Immunology* 154: 393-406.

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36. Wu, J.-Y., Gardner, B.H., Murphy, C.I., Seals, J.R., **Kensil, C.R.**, Recchia, J., Beltz, G.A., Newman, G.W., and Newman, M.J. 1992. Saponin adjuvant enhancement of antigen-specific immune responses to an experimental HIV-1 vaccine. *J. Immunol.* 148: 1519-1525.

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39. Clark, N., Kushner, N., Barrett, C., **Kensil, C.R.**, Salsbury, D., and Cotter, S. 1991. Efficacy and safety field trials of a recombinant DNA vaccine for feline leukemia virus infections. *J. Am. Vet. Med. Assoc.* 199: 1433-1443.

40. Marciani, D.J., **Kensil, C.R.**, Beltz, G.A., Hung, C.H., Cronier, J., and Aubert, A. 1991. Genetically-engineered subunit vaccine against feline leukemia virus: protective immune response in cats. *Vaccine* 9: 89-96.

41. Hackett, C.S., Novoa, W.B., **Kensil, C.R.**, and Strittmatter, P. 1988. NADH binding to cytochrome b₅ reductase blocks the acetylation of lysine 110. *J. Biol. Chem.* 263: 7539-7543.

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43. **Kensil, C.R.** and Strittmatter, P. 1986. Binding and fluorescence binding properties of the membrane domain of NADH-cytochrome b₅ reductase: determination of the depth of trp 16 in the bilayer. *J. Biol. Chem.* 261: 7316-7321.

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45. **Kensil, C.R.**, Hediger, M.A., Ozols, J., and Strittmatter, P. 1983. Isolation and partial characterization of the NH₂-terminal membrane binding domain of NADH-cytochrome b₅ reductase. *J. Biol. Chem.* 258: 14656-14663.

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47. Dennis, E.A., Darke, P.L., Deems, R.A., **Kensil, C.R.**, and Pluckthun, A. 1981. Cobra venom phospholipase A₂: a review of its action toward lipid/water interfaces. *Mol. and Cell. Biochem.* 36: 37-45.

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U.S. PATENTS:

1. Saponin Adjuvant.
Inventors: **Charlotte A. Kensil** and Dante J. Marciani
Assignee: Antigenics Inc., Framingham, MA
Patent Number: 5,057,540
Issued: Oct. 15, 1991
2. Methods for Enhancing Drug Delivery with Modified Saponins
Inventors: **Charlotte A. Kensil**, Sean Soltysek, and Dante J. Marciani
Assignee: Antigenics Inc., Framingham, MA
Patent Number: 5,273,965
Issued: Dec. 28, 1993
3. Vaccine Comprising Recombinant Feline Leukemia Antigen and Saponin Adjuvant
Inventors: Gerald Beltz, Dante J. Marciani, C.-H. Hung, and **Charlotte A. Kensil**
Assignee: Antigenics Inc., Framingham, MA
Patent Number: 5,352,449
Issued: Oct. 4, 1994
4. Modified Saponins for Enhancing Drug Delivery
Inventors: **Charlotte A. Kensil**, Sean Soltysek, and Dante J. Marciani
Assignee: Antigenics Inc., Framingham, MA
Patent Number: 5,443,829
Issued: Aug. 22, 1995
5. Saponin-Antigen Conjugates and the Use There of
Inventors: **Charlotte A. Kensil**, Sean Soltysek, and Dante J. Marciani
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Patent Number 5,583,112
Issued: Dec. 10, 1996
6. Drug Delivery Enhancement via Modified Saponin
Inventors: **Charlotte A. Kensil**, Sean Soltysek, Dante J. Marciani, and Joanne Recchia
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Patent Number 5,650,398
Issued: July 22, 1997
7. Saponin Adjuvant Composition
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Patent Number 6,231,859 B1
Issued: May 15, 2001